STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

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Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

May 3, 1983

Mr. LeRoy Fyock
Chevron Phosphate
Manila Star Route
Vernal, Utah 84078

RE: American Gilsonite
Bonanza Operations
ACT/047/010 A, B, C
Uintah County, Utah

Dear Mr. Fyock:

Please find enclosed a copy of the Division's review of American Gilsonite's February 25, 1983 resubmittal of a consolidated operations Mining and Reclamation Plan. In your efforts to bring all of the operations into one complete package it appears that an underestimate of detail required has been made. Several areas are not fully detailed and noticeable gaps remain in the Division's understanding of American Gilsonite's plans for and commitments to reclamation of disturbed areas.

Please try to redesign your response to enable our insertion of your comments into the three-ring binder which is on file. If you have any questions please contact either Tom Portle or myself. A resubmittal by early summer is expected.

Sincerely,

THOMAS N. TETTING
ENGINEERING GEOLOGIST

TNT/lm

cc: Jim Smith, DOGM, w/enclosure
Tom Portle, DOGM, w/enclosure
Susan Linner, DOGM, w/enclosure
Pam Grubaugh-Littig, DOGM, w/enclosure
Dave Darby, DOGM, w/enclosure

Enclosure

AMERICAN GILSONITE
BONANZA OPERATIONS
ACT/047/010 A, B, C

HYDROLOGY - DWD

Rule M-3(1)(d)

Show on a map the locations of reservoirs, sedimentation ponds, catch basins, tailings ponds, springs and wells. Maps should be prepared in accordance with Rule M-6.

Rule M-3(1)(e)

The operator shall submit drainage plans for surface facilities and other areas disturbed by mining. Structures controlling disturbed and undisturbed runoff should be depicted on the map sufficient to clearly indicate details of structures and directional flow of water.

Rule M-3(1)(f)

Describe and indicate the depth of the various water bearing strata that has been or will be encountered, or could be effected by mining.

Rule M-3(2)(a)

Additional data are needed to depict characteristics of streams and springs on and adjacent to the mine plan area. Baseline characteristics should be established and data supplied to depict seasonal variation in quality and quantity.

Rule M-3(2)(c)(2)

Please submit information as to what toxic waters and minerals could be produced and how they will be segregated and controlled.

Rule M-3(2)(f)

The applicant should submit a description of the ultimate reclamation of all hydrologic structures and a timetable for the accomplishment of each major step.

Rule M-10 - DWD/TNT

Sizing calculations and cross-sections should be submitted for all

diversions, sedimentation ponds, tailings ponds and catch basins to establish their capacity to store or control a specified precipitation event, no less than the 10 year, 24 hour event.

Do the sites E-21, I-18, B-14, B-37 and B-40 correspond with the outfall numbers listed on Form 2C (NPDES), No. 1?

Apparently the latest discussion of NPDES permitting (No. UT-0000167) was the April 27, 1981 letter of notification from the EPA. It authorized a temporary continuation of discharge for the interim between expiration of your prior permits and renewal. Nearly two years have elapsed. What has happened to the renewal?

BONDING AND LEGAL MATTERS

Rule M-5 question #19 - PGL

What is the total bond now held by the Federal Government for all of the operations? List individualy by lease and by agency where posted.

Rule M-5 - PGL

More detail is needed regarding the dismantle and removal of the various mine facilities. How were these dollar amounts derived? Size, cost of haulage, equipment used, etc., should be given. Please clarify. Will the salvage yard near Bonanza be the place to haul structures after abandonment?

Title 40-8-13(2) - TNT

No confidential material was found clearly marked as such. If there is some to be included; what is it?

Procedural Question

The signature and Notary seal are missing from page 11 of Form MR-1.

The signature and Notary seal on the second page of MR Form 8 which should have gone on page 11 is not the original. One must be provided.

BIOLOGY

Rule M-3(2)(c) - SCL

The applicant should submit a complete description of any past revegetation work that has been done, including seed mix(es), rates of seeding, and some measure of success.

The applicant states that all areas will be revegetated within 5 years after the end of their use. What measures will be taken to ensure that these areas are not eroded during the interim period (i.e. regrading, mulching, nurse crops)?

The proposed seed mix for 1983 shows a rate of 18 lbs PLS/acre, but it is not stated whether this is for drill or broadcast seeding. Broadcast seeding should be done at 1 1/2 - 2 times the rate of drill seeding. Areas which are drill seeded do not need to be raked.

A complete revegetation plan including: seed mix and rate of seeding in pure live seed (PLS) per acre, or stocking rate (stems/acre) for shrub plantings; seedbed preparation; seeding and planting techniques; mulching, irrigation and fertilization methods, amounts and frequencies or duration must be submitted at least 60 days prior to implementation. If there will be different techniques or seed mixes for different areas, this should be indicated. Season of seeding or planting should also be indicated.

If any fencing needs are determined at a later date, fence design must be approved in advance by the Division.

Rule M-10(12) - SCL

More information about the test plots to be established this spring needs to be submitted. What different mixtures, techniques, etc. will be used? What special treatments may need to be tried in the ore storage ponds? Soil sampling should be done in all test plot areas prior to making final determinations on fertilization and seed mixtures. Testing results and proposed final test plot designs must be submitted to the Division at least 60 days prior to planned implementation.

Monitoring of revegetated areas during the bond release period should be discussed. This will include monitoring methods, timing and duration of monitoring, and methods of determining whether or not the success standard has been achieved. Funds for monitoring of revegetation success should be included in surety calculations.

SOILS

Soil Maps, Baseline Data and Soil Removal

Rule M-10 (14) - TLP

No soil maps or baseline data have been provided to describe the physical nature, extent, depth or chemical charateristics of soils associated with the American Gilsonite property. A map should be provided which relates soils series and/or complex to the depth of soils to be salvaged. The applicant should relate the location of soil sampling points and all surface facilities in this map.

Soil testing must be done to evaluate the capability of soils to allow for successful revegetation, this sampling should be done by depth. Test

parameters should include, but not be limited to, soil texture, pH, organic matter, electrical conductivity, cation exchange capacity, sodium absorbtion ratio, available nitrogen, avialable phosphorus, available potassium, soluble calcium, magnesium, potassium and sodium (expressed as meq/100g).

A specific map accompanied by a balance sheet should be provided which indicates all areas where topsoil is currently being stored, the volume of soil stored in each location and relates the total area to be reclaimed versus the volume of available topsoil (see enclosed chart). If the operator is deficient in topsoil he should show all areas where local soils will be borrowed and should estimate the volume of borrow material required to achieve final reclamation and should describe what will be done to render these borrow materials capable of support vegetation based on a chemical analysis as previously described. Further, how would these areas from which borrow materials will be taken be reclaimed?

Under item 21A soil pH of 8.5 is given, this is not a range, what is the range? The applicant states that one to six inches of soil is available, where does this figure come from? (surveys, from visual observations, etc.) Also, the operator states that between 100 and 600 cubic yards of topsoil per site is available. How was this figure generated? What is the typical acreage associated with a minesite?

Topsoil Storage and Protection

On page 5A the applicant shows some diagrams with berms along the sides of roads. Do these berms represent a topsoil stockpiling technique. Provide a map showing all topsoil storage locations.

What measures will be employed to achieve adequate topsoil stockpile protection? The applicant states that alfalfa will be used to seed stockpiles. A more extensive seed mix including some grasses would be beneficial. In addition, measures to prevent the soil from being affected from overland drainage, vehicular activities and wind erosion should be addressed. Will mulching or soil surface stabilizing agents or measures be utilized? The applicant should show a typical topsoil stockpile configuration and provide cross sections. Will topsoil stockpiles be concave, cone shaped or flat? What will be the slope of the stockpile outslopes?

Contemporaneous Reclamation

Please indicate all areas which will receive contemporaneous reclamation if this is different than test plots.

Waste Rock

More detail is needed on waste rock handling, the applicant states that waste rock will either be disposed of in abandoned pits or graded from the pad areas at the time of reclamation. The Division requires information concerning the expected volume of waste rock as well as potential for adverse chemical affects on revegetation and/or runoff water quality. If the rock is

highly saline or alkaline it could be detrimental. Possibly, a minimal sampling scheme, pH and electrical conductivity could provide a indication as to the necessity of performing additional tests.

Soil Redistribution

The applicant must specify the season of year during which soil redistribution activities will occur. The applicant should address the expected redistribution depth of available soil taking into consideration the results from mapping, chemical tests, perceived need for substitute soil and results of test plots. This depth should be committed to and elaborated on if it will vary from location to location. Soil tests necessary to identify nutrient deficiencies should be described. Means of fertilizer application should be stated.

Test Plots

The applicant states that test plots will be initiated in spring or summer. Presumably this means delineating their locations. We assume seeding will be take place in fall to take advantage of available spring mositure and as later stated by the operator. What will be the size of the test plots? Will the test plots sizes vary from place to place? A map should be provided showing all locations. A couple of test plots are shown on map surface facilities and disturbance areas but apparently more test plots are to be used than are shown on these maps. The applicant should consider utilizing more variables in test plots such as the affects of different seed mixes, with and without fertilizer, with and without mulch. While the applicant states that soil nutrient tests will be utilized, he has not described what tests will be taken, for what purpose or what methods will be used to analyze the samples. If soil amendments are necessary what nutrients will be applied, how much will be applied and in what form will they be applied, what methods will be used to apply any amendments?

Grading and Soil Preparation

Rule M-3 (2)(d)
Rule M-10 (4) - TLP/TNT

The operator states in 23.3.4. that "contour furrows will be installed to prevent erosion" where "slope requires". In addition he indicated that slopes will not exceed 2:1. Since the area is generally rather flat where will these conditions be encountered? Please show all areas where these conditions are expected on a map.

Also, please expand on the method and implements to be used to roughen soil once it has been respread to supplement your discussion under this part.

Refer to Number 22, page 7A. How will old trenches be filled? How will the sewage ponds be reclaimed?

The applicant has in the past utilized native soil materials to put out fires at the landfill. At the time this occured rubble piles were available which could have been used for that purpose. The operator should generate contingency plans which preclude the use of valuable topsoil resources in this manner. In the future these areas should be identified and clearly marked on a map and plans generated should include explanation as to how employees will be instructed in this procedure to prevent similar occurances in the future. Any further use of topsoil in this manner will be regarded as a violation of the Utah Mined Land Reclamation Act.

Although the landfill at the E-21 site has been indicated on the map, no description of the size or extent of the area has been given. A more detailed discussion of site procedures and Health Department permits is needed.

MISCELLANEOUS

Rule M-10(10) and M-10(2) question #11 - PGL

When will the program to delineate abandoned areas and either fence them or blast them closed by ready? Have any warning signs been posted? How will the shafts be sealed. Please include cross-sections of the plan for shaft sealing.

Rule M-3(g) question #14 - PGL

Are the waste oils and solvents stored with some precautions in case of spillage?

Rule M-3(2)(g) question #9, item #26 on New Submittal - PGL

The timetable for the accomplishment of each major step in the reclamation plan is still needed. The timetable refers to the amount of time involved in each step, not a yearly date.

23 D - TLP

Owner permission will be required to leave roads; how will road reclamation be monitored after overall site monitoring is completed?

lm

SOIL TABULATION CHART

Area affected (in mining sequence)	Area 1	2	3	etc
Acreage of Area				
Depth of topsoil removal (inches)				
Depth of topsoil replacement (inches)*				
Estimate of topsoil volume salvaged (yd^3)				
Volume actually salvaged (yd^3)				
Volume required for reclamation (yd^3)				
Surplus or deficit volume (yd^3)				
Storage status (short or long term)				
Storage location				
Area where soil used (if not stored)				
Running total (all stockpiles)(yd^3)				
Short term				
Long term				

* of previously stripped area recently reclaimed